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EXAMINER
CHOI, PETER H

ART UNIT	PAPER NUMBER
3623	

DATE MAILED: 07/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/682,000	Applicant(s) KITTS, BRENDAN J.
	Examiner Peter Choi	Art Unit 3623	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 July 2001*.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

    4a) Of the above claim(s) *3-5, 8-9, 12-14, and 17-18* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,6,7,10,11,15 and 16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 July 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
      application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date *4/1/05*.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1.   This application contains claims directed to the following patentably distinct

species of the claimed invention:

Generic claim: Predicting the business potential for customers by accessing

customer data and comparing customers to other individuals to assign a value for the

business potential of each customer.

Species I: Directed toward analyzing customer behavior based on a Maximum

Amount Spent model (Section 4.2, Paragraphs 87-90).

To render the model less susceptible to outliers and bad data, the business

potential of a customer is based on the maximum spent during an isolated incident (a

transaction or a specific time period). A nearest neighbor model is used to match the

customer's maximum expenditure with the 10 average maximum spending levels for

customer groups.

Species II: Directed toward analyzing customer behavior based on an Item

Preference model (Section 4.1, Paragraphs 75-86).

Customers are segmented to create spending profiles by employing a nearest

neighbor model to review customer purchase data to determine the revenue group each

customer belongs to. A comparison of individual item preference vectors is made with

the item preference vectors and revenue percentiles of each revenue group in order to

assign a value to the potential purchasing amount for the customer.

Species III: Directed toward analyzing customer behavior based on a Distance-

to-Store model (Section 4.3.1, Paragraphs 96-103).

The distance between a customer and a store is used to predict the spending of

customers. Each customer's distance (to the store and competitors) is compared with

the distance percentiles to determine an amount that a customer at a certain distance

from the store (or from competitors) would be predicted to spend.

Species IV: Directed toward analyzing customer behavior based on a

Geographic Indicators model (Section 4.3.2, Paragraphs 104-106).

Individual customers are matched to their area (based on zip code, telephone

numbers, etc.) to estimate income and predict business potential. Each customer is

matched to their area and assigned the average amount spent by customers in that

area.

Species V: Directed toward analyzing customer behavior based on an Average

Spending model (Section 4.2, Paragraph 91).

As a modification to the Maximum Amount Spent model (species I), the average

amount spent (instead of the maximum amount) is used to match customer potential

with customer groups.

Species VI: Directed toward analyzing customer behavior based on a Global

model (Section 4.4, Paragraphs 107-116).

A value is assigned for the purchasing potential amount using a weighted

combination of other models. A maximum weight for each model's impact on the

potential is established.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for

prosecution on the merits to which the claims shall be restricted if no generic claim is

finally held to be allowable. Currently, claims 1,6,7,10,15, and 16 are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

2.   During a telephone conversation with John Adair on June 24, 2005 a provisional election was made to traverse to prosecute the invention of Species I, claims 2, and 11. Affirmation of this election must be made by applicant in replying to this Office action.

Claims 3-5,8-9, and 12-14 are withdrawn from further consideration by the examiner, 37

CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 112

3.   Claims 11, 15, and 16 are rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention.

4.   Claims 11 and 15 are dependent on independent claim 10, which is a system

with code embodied therein and executable by a data processing system. However, in

line 2 of these claims, it is cited that "...the **method** further comprises:". A method claim

cannot be dependent on a system claim (and vice versa). As claims dependent on

system claim 10, claims 11 and 15 must also be method claims, as no more than one

statutory class of invention is permitted per claims. For purposes of the following art

rejection, the examiner has interpreted that claims 11 and 15 are dependent on the

system of claim 10 and line 2 has been interpreted to read "... the system further

comprises:". Correction is required.

5.   Claims 7 and 16 provides for the use of computational time, but, since the claim

does not set forth any steps involved in the method/process, it is unclear what

method/process applicant is intending to encompass. Applicant has cited a

computational time proportionate to the number of customers and items carried by the

vendor or a site of the vendor, but fails to disclose any means of how the computation

time is derived, or its purpose in the functionality of the invention. A claim is indefinite

where it merely recites a use without any active, positive steps delimiting how this use is

actually practiced.

Claim Rejections - 35 USC § 101

6.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

7.   Claims 1, 2, 6, and 7 are rejected under 35 U.S.C. 101 because the claimed

invention is directed to non-statutory subject matter.

The basis of this rejection is set forth in a two-prong test of:

(1)   whether the invention is within the technological arts; and

(2)   whether the invention produces a useful, concrete, and tangible result.

For a claimed invention to be statutory, the claimed invention must be within the

technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural

phenomena) that do not apply, involve, use, or advance the technological arts fail to promote the "progress of science and the useful arts" (i.e., the physical sciences as opposed to social sciences, for example) and therefore are found to be non-statutory subject matter. For the process claim to pass muster, the recited process must somehow apply, involve, use, or advance the technological arts.

As to claims 1, 2, 6 and 7, the recited steps of accessing transaction data collected and stored internally by a vendor to assign a value for the business potential of customers based on purchase history in comparison to a group of customers are outside the given range. The recited steps to not apply, involve, use, or advance the technological arts since all of the recited steps can be performed in the mind of the user or by use of a pencil and paper. The claims are therefore deemed to be directed to non-statutory subject matter.

Although the method produces a useful, concrete, and tangible result, since the claimed invention, as a whole, is not within the technological arts as explained above, claims 15-26 are deemed to be directed to non-statutory subject matter.

Claim Rejections - 35 USC § 102

8.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 6, 10 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Anderson et al. (U.S Patent #6,078,892).

As per claim 1, Anderson et al. teaches a method of predicting a business potential for a first customer comprising:

accessing **(searching customer records which are preferably stored in a marketing database)** data regarding the first customer **(a plurality of customer records each containing data relating to a different customer)** of a vendor [Column 6, lines 54-55 and Claim 1]; and

assigning a value **(assigning scores)** for the business potential for the first customer, wherein the value is a function of at least a behavior **(affinity for particular products)** for a group of other individuals in a population **(Customers 1 through N)** and is based at least in part on the data **(scores indicating a relationship between a respective one of said customer records and a product)** [Column 7, lines 26-51 and Claim 1].

As per claim 6, Anderson et al. teaches the method of claim 1, further comprising:

storing **(storing data records as a collection of data records)** the data **(within a database containing a plurality of data records each containing information of**

interest), wherein the acts of collecting, storing, accessing, and assigning are performed by the vendor [Column 5, lines 45-47 and Column 11, lines 56-61].

Although not specifically taught by Anderson et al., it is inherent that the transactional data regarding customer purchases were internally collected from point-of-transaction terminals, meeting the limitation of the claim.

Claim 15 is rejected on a similar basis.

As per claim 10, Anderson et al. teaches a data processing system readable medium having code embodied therein **(computer program embodied in a computer-readable medium)**, the code including instructions executable by a data processing system, wherein the instructions are configured to cause the data processing system to perform the steps of:

accessing **(retrieving)** data regarding the first customer **(data relating to different customers)** of a vendor [Claim 32]; and

assigning a value **(score)** for the business potential for the first customer, wherein the value is a function of at least a behavior **(affinity for particular products)** for a group of other individuals in a population **(Customers 1 through N)** and is based at least in part on the data **(scores indicating a relationship between a respective one of said customer records and a product)** [Column 7, lines 26-51 and Claim 32].

Claim Rejections - 35 USC § 103

10.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set
forth in section 102 of this title, if the differences between the subject matter sought to be patented and
the prior art are such that the subject matter as a whole would have been obvious at the time the
invention was made to a person having ordinary skill in the art to which said subject matter pertains.
Patentability shall not be negatived by the manner in which the invention was made.

11.   Claims 7 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Anderson et al.

As per claim 7, Anderson et al. fails to teach the method of claim 1, wherein the

method takes a computational time that is substantially directly proportional to N or N*

log(N), wherein N is a product of a number of customers and a number of items carried

by the vendor or a site of the vendor.

However, Official Notice is taken that a plurality of algorithms perform

computational or search times proportional to N or N * log(N). Algorithms with

computational times of N are linear functions, whereas algorithms with computational

times of N * log(N) are known as "linearithmic" or "supralinear" functions, both of which

are old and well known in the art. As noted above, the claim fails to contribute

patentable weight, as the computational time does not impact the functionality of the

claimed invention.

Claim 16 is rejected on a similar basis.

12.   Claims 2 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Anderson et al. as applied to claims 1 and 10 above, and further in view of Jim Novo's

"Relationship in Relationship Marketing"

As per claim 2, Anderson et al. teaches the method of claim 1, further

comprising:

determining an individualized result **(score)** and a group-wide result **(scores of**

all customers 1 through N) [Column 7, lines 26-51 and Claim 1]; and

comparing **(ordering)** the individualized result with the group-wide result

[Column 8, lines 36-41 and Claim 1].

Anderson et al. does not teach the step of determining individual and group-wide

results based on the amount spent by the customer during a transaction or time period.

However, Novo teaches the step of ranking all of a company's customers by the amount

of money spent. It would have been obvious to one of ordinary skill in the art at the time

of invention to modify the teachings of Anderson et al. to include the step of ranking

customers according to the amount spent during a transaction to obtain a relative and

absolute measure regarding each customer's value to the company.

As per claim 11, Anderson et al. teaches the data processing system readable medium of claim 10, further comprising:

determining an individualized result **(score)** and a group-wide result **(scores of all customers 1 through N)** [Column 7, lines 26-51 and Claim 32A]; and

comparing **(ordering)** the individualized result with the group-wide result [Column 8, lines 36-41 and Claim 32E].

As stated above, Anderson et al. does not teach the step of determining individual and group-wide results based on the amount spent by the customer during a transaction or time period. However, Novo teaches the step of ranking all of a company's customers by the amount of money spent. It would have been obvious to one of ordinary skill in the art at the time of invention to modify the teachings of Anderson et al. to include the step of ranking customers according to the amount spent during a transaction to obtain a relative and absolute measure regarding each customer's value to the company.

Conclusion

13.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Melchione et al. (U.S Patent #5,930,764) teaches a sales and marketing support system using a customer information database. A central database is used to identify sales targets and receives comprehensive information from a variety of internal feeds.

Anderson et al. (U.S Patent #5,974,396) teaches a system and method for gathering and analyzing consumer purchasing information based on product clustering relationships. The system permits a retailer or retail chain to process transactional information involving large numbers of consumers. Consumers are similarly grouped into consumer clusters. Product, consumer, and transactional data are maintained in a relational database.

Rothman et al. (U.S Patent #6,505,168) teaches a system and method for gathering and standardizing customer purchase information for target marketing. Customer purchase information is received from a variety of sources, internal and external to the company. Socres are generated based on the total dollar amount of purchases made b customers.

Eldering (U.S Patent #6,298,348) teaches a consumer profiling system in which consumer profiles are formed and updated based on their purchases. The consumer profiles contain both demographic data and product preferences. Purchase records are transmitted to the consumer profiling system which updates the consumer profiles

based on product characterizations which include demographic profiles of the typical

purchaser of that product.

Riordan et al. (U.S Patent #6,519,572) teaches a system and method for

collecting and processing marketing data. The invention collects at a point-of-sale

terminal all financial and non-financial data pertaining to a specific consumer

transaction, including the total purchase amount, products purchased, and quantity of

products purchased.

Gary Duke (reference 1-U) teaches a one-to-one marketing strategy that focuses

on a company's most important customers. Duke teaches that the customers can be

ranked by whatever criteria is relevant to the business (overall revenues, promise for

future business, type of products purchased, etc.). Duke teaches that in addition to the

most important customers, a company should rank the remainder of their customer

base and segment them according to their overall value to assess their potential and to

develop specific strategies to get more of their business.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Peter Choi whose telephone number is (571) 272 6971.

The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number for

the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Pc

June 24, 2005

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